WHAT IS CLAIMED IS:

1. A data transmission apparatus for transmitting data on a packet basis from a transmitter to a receiver,

said transmitter comprising:

priority assignment means for assigning priorities on a packet basis;

packet transmission means for transmitting a priority-assigned packet;

reception state receiving means for receiving a packet reception state in said receiver; and

packet retransmission means for performing packet retransmission in response to a retransmission request from said receiver, and

said receiver comprising:

packet reception means for receiving the packet provided by said packet transmission means;

reception state transmitting means for transmitting said reception state based on packet loss information detected by said packet reception means; and

retransmission request transmitting means for transmitting said retransmission request if detected any packet of high priority as having been lost, wherein

said priority assignment means changes manners of priority assignment so that the packet of higher priority is

decreased in number when said reception state is bad, and increased in number when good.

2. The data transmission apparatus according to claim 1, wherein

said reception state transmission means transmits the reception state including a packet loss ratio in said packet reception means, and

said priority assignment means changes the manners of priority assignment so that the packet of high priority is found with a lower ratio when said packet loss ratio is larger than a predetermined value, and when smaller, the packet of high priority is found with a higher ratio.

3. The data transmission apparatus according to claim 1, wherein said priority assignment means

classifies any packet including coded data derived from moving pictures into an intra-coded packet carrying intra-frame coded data, or an inter-coded packet carrying inter-frame coded data, and

based on said reception state, changes the manners of priority assignment determined according to packet type.

4. The data transmission apparatus according to claim 3, wherein

said priority assignment means changes between, based on said reception state,

a first priority assigning manner wherein said intra-coded packet is assigned with a high priority, and said inter-coded packet with a low priority, and

a second priority assigning manner wherein every packet is assigned with a high priority.

5. The data transmission apparatus according to claim 3, wherein

said priority assignment means changes among, based on said reception state,

a first priority assigning manner wherein said intra-coded packet is assigned with either a high or low priority at a predetermined ratio, and said inter-coded packet with a low priority,

a second priority assigning manner wherein said intra-coded packet is assigned with a high priority, and said inter-coded packet with a low priority, and

a third priority assigning manner wherein every packet is assigned with a high priority.

6. A data transmission method for transmitting data on a packet basis from a transmitter to a receiver,

said transmitter comprising the steps of:

assigning priorities on a packet basis;

transmitting a priority-assigned packet;

receiving a packet reception state in said receiver; and

performing packet retransmission in response to a retransmission request from said receiver, and

said receiver comprising the steps of:

receiving the packet provided by said packet transmission means;

transmitting said reception state based on packet loss information detected in said packet receiving step; and

transmitting said retransmission request if detected any packet of high priority as having been lost, wherein

in said priority assigning step, manners of priority assignment is so changed that the packet of higher priority is decreased in number when said reception state is bad, and increased in number when good.

7. The data transmission method according to claim 6, wherein

in said reception state transmitting step, the reception state including a packet loss ratio in said packet receiving step is transmitted, and

in said priority assigning step, the manners of priority assignment are so changed that the packet of high

priority is found with a lower ratio when said packet loss ratio is larger than a predetermined value, and when smaller, the packet of high priority is found with a higher ratio.

8. The data transmission method according to claim 6, wherein in said priority assigning step,

any packet including coded data derived from moving pictures is classified into an intra-coded packet carrying intra-frame coded data, or an inter-coded packet carrying inter-frame coded data, and

based on said reception state, the manners of priority assignment determined according to packet type are changed.

9. The data transmission method according to claim 8, wherein

in said priority assigning step, based on said reception state, changed between are

a first priority assigning manner wherein said intra-coded packet is assigned with a high priority, and said inter-coded packet with a low priority, and

a second priority assigning manner wherein every packet is assigned with a high priority.

10. The data transmission method according to claim 8, wherein

in said priority assigning step, based on said reception state, changed among are

a first priority assigning manner wherein said intra-coded packet is assigned with either a high or low priority at a predetermined ratio, and said inter-coded packet with a low priority,

a second priority assigning manner wherein said intra-coded packet is assigned with a high priority, and said inter-coded packet with a low priority, and

a third priority assigning manner wherein every packet is assigned with a high priority.